USDA
NATURAL RESOURCES
CONSERVATION SERVICE
DELAWARE
CONSERVATION PRACTICE
STANDARD

CLOSURE OF WASTE IMPOUNDMENTS

CODE 360
(Reported by No.)

DEFINITION

The closure of waste impoundments (treatment lagoons and waste storage ponds), that are no longer used for their intended purpose, in an environmentally safe manner.

PURPOSES

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- To protect the quality of surface water and groundwater resources.
- To eliminate a safety hazard for humans and livestock.
- To safeguard the public health.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to agricultural waste impoundments that are no longer needed as a part of a waste management system and are to be permanently closed or converted.

Where these impoundments are to be converted to fresh water storage and the original impoundment was not constructed to NRCS standards, this practice will only apply where the investigation, as called for in National Engineering Manual (NEM) 501.23, shows structural integrity.

CONSIDERATIONS

Reduce pumping effort to empty waste impoundments where the surface is covered by a dense mat of floating vegetation by first applying herbicide to the vegetation and then burning the residue. Appropriate permits must be obtained before burning.

Alternative methods of sludge removal may be required where the impoundments contain large amounts of oyster shells, soil, or other debris.

Minimize the impact of odors associated with emptying and land applying wastewater and sludge from a waste impoundment by using an incorporation application method at a time when the humidity is low, when winds are calm, and when wind direction is away from populated areas.

Keep sludge left in place flooded to prevent its aerobic decomposition with the potential release of nutrients to surface and groundwater.

CRITERIA

The closure shall comply with all federal, state and local laws, rules, and regulations.

All structures used to convey waste to waste impoundments shall be removed and replaced with compacted earth material or otherwise rendered unable to convey waste.

Liquid and slurry wastes shall be agitated and pumped to the extent conventional pumping will allow. Clean water shall be added as necessary to facilitate the agitation and pumping. The wastewater shall be utilized in accordance with NRCS conservation practice standard, Waste Utilization, Code 633. The sludge remaining on the bottom and sides of the waste treatment lagoons or waste storage ponds may remain in place if it will not pose a threat to the environment. If leaving the sludge in place would pose a threat, it shall be removed to the fullest extent practical and utilized in accordance with NRCS conservation practice standard, Waste Utilization, Code 633.

Land Reclamation. Impoundments with embankments may be breached so that they will no longer impound water and excavated impoundments may be backfilled so that these

areas may be reclaimed for other uses. Waste impoundments that have water impounded against the embankment are considered embankment structures if the depth of water is three feet or more above natural ground.

(1) **Embankment Impoundments.** Waste shall be removed from the site before the embankment is breached. The slopes and bottom of the breach shall be stable for the soil material involved, however the side slopes shall be no steeper than three horizontal to one vertical (3:1).

(2) **Excavated Impoundments.** The backfill height shall exceed the design finished grade by 5 percent to allow for settlement. The finished surface shall be constructed of the most clayey material available and mounded to shed rainfall runoff. Incorporate available topsoil where feasible to aid establishment of vegetation.

Conversion to Fresh Waste Storage. The converted impoundment shall meet the requirements as set forth in the NRCS practice standard for the intended purpose.

Safety. When sludge is not removed from a waste impoundment that is converted to fresh water storage, it shall not be used for fish production. Precautions (fencing and warning signs) shall be used to ensure that the pond is not used for incompatible purposes such as swimming and livestock watering until water quality is adequate for these purposes.

Protection. All disturbed areas not returned to crop production shall be vegetated according to NRCS Conservation Practice Standard, Critical Area Planting, Code 342.

Measures shall be taken during construction to minimize site erosion and pollution of downstream water resources. This may include such items as silt fences, hay bale barriers, temporary vegetation, and mulching.

PLANS AND SPECIFICATIONS

Plans and specifications for closure of abandoned waste treatment lagoons and waste storage ponds shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall also be consistent with the requirements of that standard.

OPERATION AND MAINTENANCE

The proper closure of a waste treatment lagoon or waste storage pond should require little or no operation and maintenance; however, if it is converted to another use, such as a fresh water pond, operation and maintenance shall be in accordance with the needs as set forth in NRCS conservation practice standard for the intended purpose.

SUPPORTING DATA FOR DOCUMENTATION.

Field Data and Survey Notes.

The following is a list of the minimum data needed:

a. Plan view sketch.

b. Location and description of the structures to be removed.

c. Cross-section of any impoundment to be breached.

d. Dimensions of the existing impoundment.

e. Profile and cross-section of outlet and, special precautions if needed.

Design Data

Record on appropriate engineering paper. For guidance on the preparation of engineering plans see Chapter 5 of the EFH, Part 650. The following is a list of the minimum required design data

a. Locate the practice on the farm plan map in the case file.

b. Determine soil materials and any special restrictions.

c. Instructions for the removal and disposal of any wastes stored in the impoundment.

d. Final grading plan for the site.

e. Show job class on the plan.

f. Detail of embankment breach (if any).

g. Quantities estimate.

h. Vegetative requirements.

i. Special safety requirements.

Construction Check Data/As-Built Plans

Record on survey notepaper, SCS-ENG-28, or other appropriate engineering paper. Survey data will be plotted in red. The following is a list of minimum data needed for the As-Built documentation:

a. Documentation of site visits on CPA-6. The documentation shall include the date, who performed the inspection, specifics as to what was inspected, all alternatives discussed and decisions made and by whom.

b. Check notes recorded during or after completion of construction showing grade and cross section of embankment breaches and the final grade of the site.

c. Statement on seeding and fencing.

d. Final quantities and documentation for quantity changes. Materials certifications as appropriate.

Sign and date check-notes and plans by someone with appropriate approval authority. Include statement that practice meets or exceeds plans and NRSC practice standards.